inViz® VUMAN® RA-Y

More light. More features. More VUMAN®.

PW03-007_1-0

viZaar industrial imaging AG

INVIZ® interchangeable videoprobe concept

DRUM STORAGE OPERATION

Best probe articulation and inspection results by pneumatic control with the major part of your probe stored on the reel. [x-way] only.

Optional high capacity rechargeable NiMh battery provides full mobility and retains capacity and performance even under the harshest conditions.

HOT SHOP REPAIR

100% customer commitment: Our Hot Shop Service meets the demands of all our customers even those in the most demanding industries. We are ISO 9001, KTA 1401 compliant and are always constantly improving our products & service.

The INVIZ® interchangeable probe concept

The INVIZ® VUMAN® RA-Y features a patented reel system; only the exact probe length required needs to be pulled off the reel to maintain a clear working environment and avoid tripping hazard. Even with longer INVIZ® probes, full operational capability and probe control is guaranteed.

viZaar
viZaar AG
01.02.2011
10:30:45
Crack in the weld
REC
WB
1024 x 768
High-Resolution
MPEG4
1024 x 768 px, 10.4" high resolution LCD with touch screen operation, perfect image quality with full text generation, easy digital still and video recording, file management at the touch of your finger.
Made in Germany
Easy to use and mobile control panel with high resolution 10.4" LCD touch screen.
Perfect documentation onto the robust 320 GB HDD. Stores hundreds of digital videos or millions of high resolution images.

Modular and upgradable equipped for your individual requirements, for now and your future projects.

With various equipment variants and optional extension kits, you can optimally prepare your equipment to your requirements and your budget. The modularly upgradable system concept and the INVIZ® interchangeable probes ensure best preparation and investment for your changing applications in the future.

Inspection, analysis and documentation couldn't be easier. The pass-code secured INVIZ® VUMAN® RA-Y offers up to nine password-protected user accounts including individual system settings. Multiple users can benefit from this technology. Your individual data and system settings are protected and available on demand.

Features include: fingertip joystick navigation of the INVIZ® VUMAN® RA-Y probe, which can easily be locked in position for detailed examinations. The automatic mode of the high power LED light source and the optional Remote Focus ensure high-class image quality at anytime. Its advanced optical design, excellent light transmission and intelligent image processing maximises performance, even in very dark and large cavities.

Digital videos and images for error analysis and processing are saved in full resolution (loss-free), 32 bit depth. Up to 300 hours full resolution recording can be quickly transferred via the USB 2.0 interface. Standard digital documentation allows easy communication of results in Windows compatible formats such as JPG, BMP, MPEG or AVI. The filing system with the instant preview function delivers immediate access to results. Comparison with reference cases is simple, thanks to the smart file management system with "Zoom By Move Over" picture gallery. Other equipment or older video recordings can be connected and digitally record onto your INVIZ® VUMAN® RA-Y. The system is very intuitive to use.

Help on board: Never get lost with the complete and detailed user manual installed on your INVIZ® VUMAN® RA-Y inspection system. Quickly find the desired page or topic.
In case of difficult situations during your inspection, your INVIZ® VUMAN® RA-Y keypad offers one-click direct access to the most frequently used features such as probe lock, snapshot and recording. White balance, contrast and brightness functions ensure detailed, true colour images for accurate assessment and decision making. Details can be highlighted with the zoom, rotate, flip or mirror function for accurate image presentation. The adjustable, high resolution 10.4" transreflective screen (1024 x 768 px) provides detailed images for analysis both indoors and outdoors. Observation notes can be added using the touch screen keyboard and an external VGA output allows transfer of images to additional monitors or other locations.

INVIZ VUMAN RA-Y 6 RF

INVIZ VUMAN RA-Y 6 RF

INVIZ VUMAN RA-Y 8 RF

INVIZ VUMAN RA-Y 8 RF [x-way]

INVIZ Revolver 12.7 mm

NO EXTERNAL AIR SUPPLY

Enjoy full mobility and independence with [x-way] articulation, even with the probe on the reel and no need for external bottles and compressors.

CARBON LIGHT DESIGN

Attractive lightweight, compact unit for increased productivity.

The new INVIZ® VUMAN® RA-Y videoendoscope system

viZaar® raises the bar for videoendoscope standards with the new high power polymer fibre hybrid LED light source and many new additional features.

Feedback from our customers, and thousands of our own inspection hours have shaped the versatile and compact functional design of the INVIZ® VUMAN® RA-Y. By developing complete new and patented technologies and using advanced materials such as carbon fibre and aluminium, this unique and mobile inspection system combines an attractive design with minimal weight, maximum robustness and practicality.

The primary objective of our engineers was to develop a remote visual inspection system that produces excellent imaging quality and inspection results in all possible environments and scenarios.

No compromise was therefore made in engineering design and manufacturing quality.

The result is INVIZ® VUMAN® RA-Y - an inspection system which reduces inspection time and costs, whilst instantly improving image and documentation quality.

INVIZ® VUMAN® RA-Y means increased effectiveness and efficiency.

The INVIZ® VUMAN® RA-Y will increase user safety and reduce production down-time by eliminating any tripping hazard and the need for heavy external equipment. INVIZ® VUMAN® RA-Y is a fully integrated, lightweight, mobile and compact inspection system. Unique, patented technologies and design concepts such as "RF Remote Focus", an integrated high performance light and air supply, optimal probe length and operation from the reel, ensure on site independence with minimal set up time.

WARNING! Not for medical use. Never use close to electrical facilities, or in hazardous or explosive environments. US or EUROPEAN patents may apply to all INVIZ® products. Microsoft®, Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and / or other countries.
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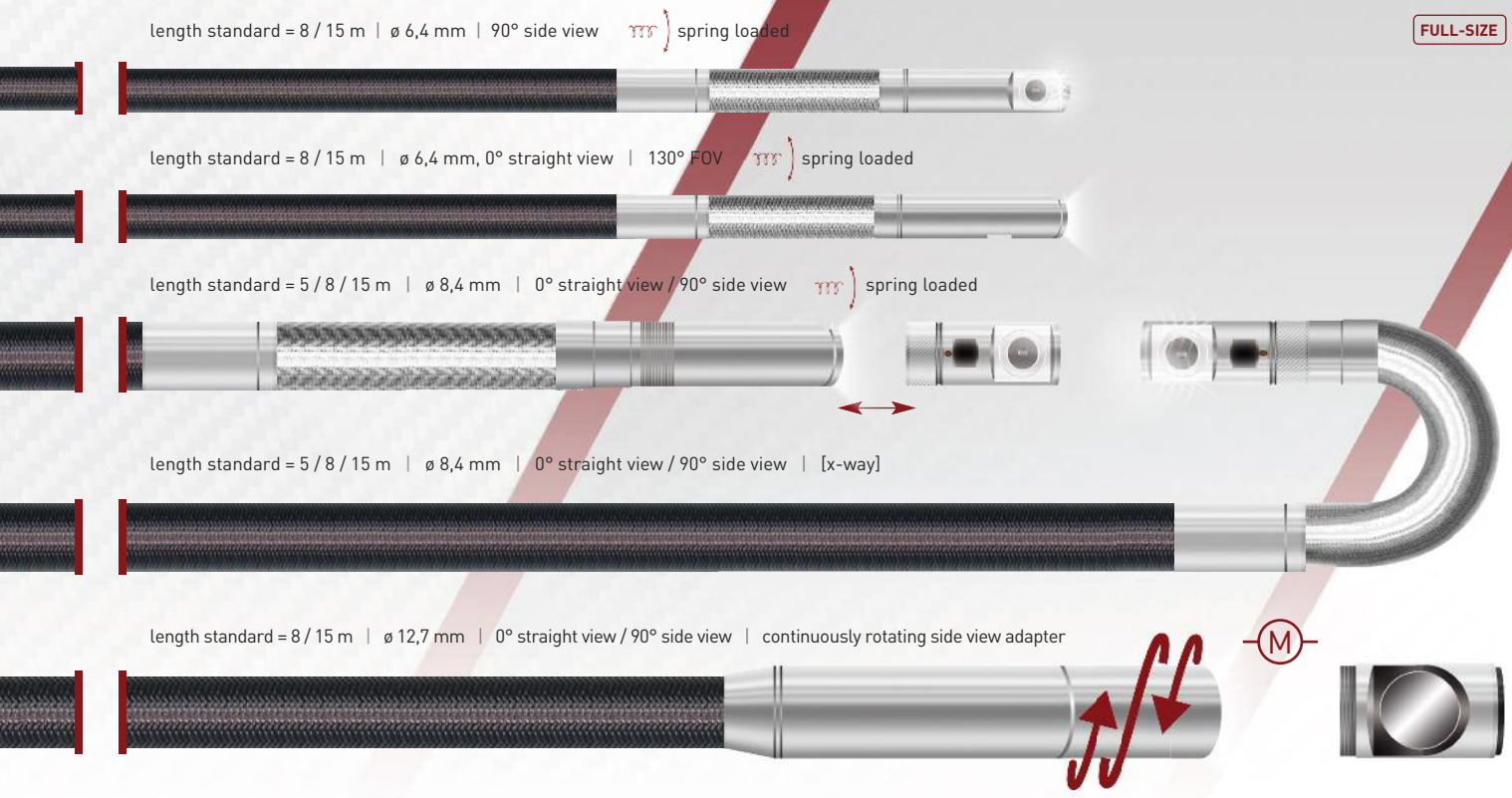

length standard = 8 / 15 m | ø 6,4 mm | 90° side view spring loaded
FULL-SIZE
length standard = 8 / 15 m | ø 6,4 mm, 0° straight view | 130° FOV spring loaded
length standard = 5 / 8 / 15 m | ø 8,4 mm | 0° straight view / 90° side view spring loaded
length standard = 5 / 8 / 15 m | ø 8,4 mm | 0° straight view / 90° side view | [x-way]
length standard = 8 / 15 m | ø 12,7 mm | 0° straight view / 90° side view | continuously rotating side view adapter
M

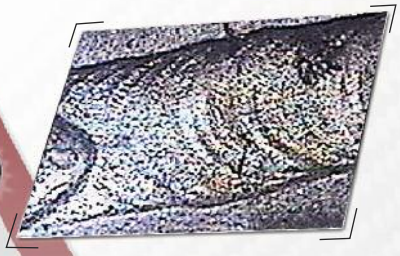
The INVIZ® probes

The INVIZ® VUMAN® RA-Y probe concept confirms the reputation of viZaar® technology. Made in Germany, these sophisticated, interchangeable probes will prove to be an excellent investment - providing a flexible solution to today's and tomorrow's inspection challenges.

- In their standard configuration, probes in all diameters are available up to 49.3ft/15m offering maximum independence and flexibility to the user.
- Their functional design is based on the feedback of our customers, the extensive experience of our own industry inspection service group, and our own unique repair service covering both our own products and those of other manufacturers.
- A polyurethane stainless steel retained composite construction, they provide excellent torsion and sliding characteristics, whilst still maximizing flexibility and bending cycles over 100 times greater than tungsten designs.
- With their tried and tested push and centering devices, the probes can be manoeuvred precisely into the required position, with minimum wear and tear.
- By comparison, on many inspections, outdated endoscopes with their limited fix-focus technology require tip adaptors which are time consuming to change, costly and difficult to use. For INVIZ® users, patented RF focus technology means such difficulties are a thing of the past.
- A full spectrum of inspection scenarios, from close up in low light to far focus in large, dark cavities, can be successfully completed in one go with the INVIZ® RF VUMAN® RA-Y.
- The proven 12.7mm INVIZ® Revolver is the most efficient and effective tool available for extensive tube and weld inspections. Rotating, fully adjustable and able to rotate through 360 degrees clockwise or anticlockwise, this small motorised camera head offers thorough and effortless continuous inspections of tube walls and welds.
- Use just as much probe length as required – any surplus probe can be safely and securely stored in the reel eliminating both damage and the risk of creating a tripping hazard. Efficient probe articulation is guaranteed, even with the majority of the probe stored in the reel.
- Unbreakable fibre optic light gives 20% more light efficiency meaning the INVIZ® VUMAN® RA-Y 8/15 RF is one of the most light-intense long range videoendoscopes on the market.
- Standard INVIZ® VUMAN® RA-Y RF probes without [x-way] are designed for heavy duty tube inspections over long periods. When used in combination with its dedicated centering devices, these probes with their spring loaded tip firmly connected to the insertion tube are an economically unbeatable inspection system. Operating swiftly and around several tube bends, there is no better or more robust solution for your tube inspection needs.

RF not adjusted

Far focus ∞, in DN 500
using long time exposure



2mm close up, RF adjusted

[x-way] 360° articulating camera head with easy remote joystick operation.

The high power LED light source with lifetime guarantee provides powerful and constant homogenous illumination. Constant color spectrum throughout the whole, extremely long lifetime enable best color reproduction and highest efficiency.

Always in focus with the exclusive viZaar® linear lens positioning. The new standard in remote visual inspection. Developed by our German engineering team, it provides the best optical system performance and image quality around.

INVIZ® "RF ready" probes allow a wide range of inspections to be carried out quickly and accurately and without the need to change optical adapters - from very small access tubes to long distance inspection in huge cavities.

Always stay focused with the INVIZ® probes

RF (Remote Focus) with patented LLP (Linear Lens Positioning) means no detail is missed **(30µm resolution at 2mm distance = $^1/_{33}$ mm)**! Save time, money and improve inspection results. From close up to distant focus, fingertip control adjusts the image quality quickly and accurately. New high power LED light source: Efficient and effective.

Endoscopes need to bring light into the dark. Taking advantage of the innovation and performance boost of the polymer fibre hybrid LED's, these new VUMAN® versions deliver a homogenous RAY of light, with far better performance, illumination, reproducibility, constant light color and no wearing, than many heavy gas discharge light sources.

NEW and unique! Remote Focus
Always stay focused without changing adapters

UNLIMITED
Remote focus means every inspection can be carried out in one operation

Depth of focus & depth of illumination

Conventional fix focus systems

LIMITED (tip adapter)
A tip adaptor is very limited; to complete an inspection several may be required. Tip adaptors absorb light, reducing image clarity.

Typical conventional tip adapter

Depth of illumination-depending on the environment

Made in Germany

Base unit

Dimensions in mm / inch	(W) 335 / 13.19" x (H) 410 / 16.14" x (D) 275 / 10.83"
Weight	7,4 kg / 16,4 lbs (9,9 kg / 21,8 lbs X-WAY)
Environmental Specifications	Operation temperature 5°F to +118°F (-15°C to +48°C) | Storage temperature -13°F to +150°F (-25° to +65°C) | Relative humidity max. 95%, non condensing
AC input	96 VAC – 256 VAC / 47Hz – 63Hz / max. 175 Watt
Housing	Aluminum – carbon fibre with elastomer bumpers
[x-way] drive	Integrated compressor, maintenance free
Video input	PAL or NTSC composite and S-Video, auto detecting
Video output	Analog VGA PC to monitor connector (Resolution 1024 x 768), worldwide standard
Connectors and outlets	USB 2.0, recording remote control, 12VDC / 500mA Aux-Out, external compressed air, rechargeable battery
LED light source	Lifetime guarantee | High efficiency LED illumination | 7,8 Watt | Daylight quality 6.500 K
System memory	320 GB, up to 300 hours of high resolution MPEG4 video-recording or several thousand BMP and JPG high quality screen shots

LCD control panel

Dimensions in mm / inch	(W) 320 / 12.6" x (H) 30 / 1.18" x (D) 230 / 9.06"
Weight	1,3 kg / 2,85 lbs
Mounting	Base Unit: integrated recording | Portable: shoulder harness
LCD monitor	10,4" LCD, contrast 1200:1, 400 cd, transreflective LED illumination, 262.144 colors, viewing angle all directions +/- 90°
Operation	Resistive touch screen incl. five direct access buttons and joystick
Housing	Carbon fibre design with all around elastomer bumper; power cable 2,5 meter (8,2 ft)
Features	Saving pictures and movies in low, medium and high resolution. Unlimited video recording. Full version file manager (create, copy, delete, rename files and folders). Includes all image processing features (flip, mirror, rotate, 8x zoom, text editing, image enhancement by long exposure 40 ms -10 sec., image filtering, contrast enhancement, brightness, full screen mode and point marker feature). Full version text generator (additional 99 spaces for standard configurations, full color management for text and background). Customizable color reference charts. Enables free positioning of picture settings. Up to 9 password-protected user accounts with individual configurations. Multi-lingual user interface. Multi-lingual on-board manual.

INVIZ® probes

	8 RF [x-way]	8 RF	6 RF side view	6 RF straight view	Revolver 12.7 mm
Probe length in metres / feet	5 / 16,4 8 / 26,3 15 / 49,3	5 / 16,4 8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3	8 / 26,3 15 / 49,3
Probe diameter in mm / inch	8,4 / 0.33"	8,4 / 0.33"	6,4 / 0.25"	6,4 / 0.25"	12,7 / 0.5"
Camera resolution 440.000 Pixel, (H) 752 x (V) 582	X	X	X	X	X
Genuine optical Remote Focus (RF)	X	X	X	X	X
Fastener for optical centering tools	X	X	X	X	X
Centering tools within scope supply			X	X	X
Field of view (FOV)	70°	70°	65°	130°	60°
Direction of view (DOV)	0° / 90°	0° / 90°	90°	0°	90° / 360°
Fastener for optical side view adapter	X	X			X
Optional available white LED illumination (probe head)	X	X	X	X	X
Hard wearing stainless steel braid on polyurethan probe (bending cycles x 100 vs tungsten braid)	X	X	X	X	X
Probe watertight up to 1,5 bar / 14 psi	X	X	X	X	
Probe splash waterproof					X
Custom made probe extension (up to 20 m probe length)	X	X	X	X	
Weight in gramm / lbs	920 / 2,0 990 / 2,2 1360 / 3,0	800 / 1,7 870 / 1,9 1240 / 2,7	820 / 1,8 1140 / 2,5	820 / 1,8 1140 / 2,5	1120 / 2,5 1520 / 3,4
[x-way] camera head articulation up/down +/-130°, left/right +/-90°	X				
Self centering supple bending section at camera head		X	X	X	

Accessories

Option transport case

Dimensions in mm / inch:
(W) 635 / 25" x (H) 510 / 20.08" x (D) 365 / 14.37"
Weight:
12,25 kg / 27 lbs, transport case with wheels

Option probe case

Dimensions in mm / inch:
(W) 415 / 16.34" x (H) 465 / 18.31" x (D) 190 / 7.48"
Weight:
3,25 kg / 7.16 lbs, transport case for spare probe.

Option centering tools

INVIZ® VUMAN® RA-Y 8 in mm / inch:
Ø 60/2.36", 44/1.73", 34/1.34", 24/0.94"
INVIZ® VUMAN® RA-Y 6 in mm / inch:
Ø 44/1.73", 19/0.75", 10/0.39"
INVIZ® Revolver 12.7 in mm / inch:
Ø 60/2.36", 46/1.81", 36/1.42", 26/1.02"

Option side view

Side view adapter for 8 and 12,7 mm probes.

Option battery

Capacity of coldness resistent NiMh: 9 Ah, 24 Volt. Operation time: approx. 1,5 h. Operation environment: -25°C to +45°C (-13.0°F to +113.0°F). Charging unit included.

Option pushing aid

Pushing aid

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